

Remarks

Reconsideration is respectfully requested.

Election/Restrictions

The applicant hereby affirms the election made via telephone conversation between the examiner and Christopher J. Lewis on September 26, 2005 during which a provisional election was made to elect without traverse to prosecute the invention of the sprocket/guide bar subjected to claims 1-14 and 17-20. Claims 15 and 16 have been indicated as withdrawn in the current listing of claims.

Specification

The examiner has objected to the specification on formal grounds. The applicant has submitted here with replacement paragraphs which are believed to cure the issues set forth in the examiner's objection. Withdrawal of the objection is respectfully requested. No new matter has been added.

Claim Rejections – 35 U.S.C. Section 112

The examiner has rejected claims 11, 12 and 20 under 35 U.S. C. 112 second paragraph being indefinite. The applicant has amended claims 11, 12 and 20 to rectify the examiner's issues with those claims. Applicant believes that these claims are now in a condition for allowance.

Claim Amendments

Claims 1-20 are in the case. Claims 11, 12, 13, 17 and 20 have been amended. Claims 15 and 16 have been withdrawn.

Claim Rejections – 35 USC § 103

The examiner has rejected claims 1-2 and 4-5 under 35 U.S.C. 103 (a) as being unpatentable over Ehlen et al. U.S. Patent 3,878,607 in view of Bell et al. U.S. Patent

5,136,783. Presumably the examiner had intended to include claims 6, 7, 9-14, and 17-20 in the list of rejected claims as these claims are discussed by the examiner in this portion of the office action. Applicant respectfully traverses the rejection and requests reconsideration and allowance of the claims as amended.

It is well settled that in order to establish a *prima facie* case of obviousness under 35 U.S.C. § 103, three basic criteria must be met. See MPEP 2142 and 2143. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings. Second, there must be a reasonable expectation of success. And third, the prior art reference or references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure or the use of hind sight. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). Further, the level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int'l Inc.*, 174 F.3d 1308 (Fed. Cir. 1999).

Both Ehlen et al. and Bell et al. fail to teach positioning "a relief in the upper portion of the leading and trailing edges such that the drive tang is urged to contact the lower portion of the plurality of teeth." Further, there is no suggestion or motivation to combine the references in a way that would cause one of ordinary skill in the art to arrive at including a sprocket outer race that has such "a relief in the upper portion of the leading and trailing edges such that the drive tang is urged to contact the lower portion of the plurality of teeth." As set forth in the specification, such a configuration allows the operational forces to be directed towards the stronger part of the sprocket, which in turn may allow a larger inner bore in the outer race. Increasing the inner bore of the outer race will allow the rivets used to secure the nose end together to be positioned farther outward and better resist sidewall separation.

On the contrary, Ehlen teaches a saw chain sprocket having a recessed region at the root portion of the sprocket piece in order to minimize the friction and wear between the sprocket and the right and left hand side plates 18 and 20, and to further provide a reservoir for receiving a lubricating medium to maximize lubrication between

the sprocket and the cutter bar assembly 14. See, e.g. FIG. 6 and corresponding discussion. Ehlen does not teach having sprocket teeth with a relief that urges contact of the drive tang to the lower portion of the tooth, which as set forth in the specification helps solve the problem of side wall separation of a guide bar nose. In fact, for two reasons, Ehlen appears to teach the opposite, *i.e.* contact of the drive tang with the upper portion of the tooth. First, as shown in FIG. 6 of Ehlen and the corresponding discussion in Col. 3, lines 29-40, Ehlen states that “[t]he cutter chain drives the sprocket by virtue of engagement of the tangs with sprocket teeth 60.” 60 in FIG 6. is pointing to the slanted upper portion of the tooth, and thus would urge contact at the upper portion of the tooth. Second, removal of the sprocket material at the lower portion of the tooth as set forth in Ehlan clearly would weaken the sprocket at the area in which the present invention is attempting to direct the operational forces, *i.e.* the lower part of the sprocket tooth.

Bell teaches a saw chain sprocket having gullets that are sized to receive similarly shaped drive links of a saw chain to urge contact of the drive tang with the bottom of the gullet in order to distribute operational forces across the gullet and avoid forces imposed on the teeth, which can lead to the problem of cracks forming at the base of the gullet as illustrated by 92 in FIG. 4. See Col. 2, Lines 5-15. Accordingly, Bell actually teaches away from the notion of urging contact with the lower portion of the sprocket tooth. Further, Bell makes no reference, or suggestion, to solve the problem of side wall separation, particularly having a relief in the upper portion of the leading and trailing edges of a sprocket tooth in order to urge the drive tang into contact with the lower portion of the sprocket teeth. Finally, the teeth of Bell are shown to be shortened, not relieved, *i.e.* having teeth of a reduced relative height. See FIGs. 1 and 4.

Because Ehlen and Bell fail to teach or disclose all the elements of independent Claims 1 and 6, those claims are believed to be allowable. Further, as claims 2-5 and 7-10 depend from claims 1 and 6 respectively, those claims are also believed to be allowable.

To help clarify certain aspects of applicant's invention, applicant has amended independent claim 17. The claim currently includes limitations similar to those

discussed above with regard to claims 1 and 6. As for the same reasons as discussed above, claim 17, and claims 18-20 which depend there from, are allowable over Bell and Ehlen.

Regarding claims 11 and 12-14, again Ehlen et al. and Bell et al. do not teach all the limitations as claimed and there is no suggestion in either reference which would motivate one of ordinary skill in the art to combine their teaching. Specifically, neither reference teaches a gullet having a first radius of curvature that is greater than a second radius of curvature that would be formed by an approximate intersection of lines that are tangential to the leading edge and the trailing edge, such that the drive tang is urged to contact the gullet and not the abbreviated leading edge or trailing edges. As discussed above, while Bell teaches distributing the operational forces imposed by the drive tang along the bottom of the gullet, there is no suggestion or motivation in either Bell or Ehlen to combine the references to arrive at the invention claimed in claims 11 and 12-14. Accordingly, these claims are allowable over the cited art.

The examiner has further rejected claims 6, and 18-20 under 35 U.S.C. 103 (a) as being unpatentable over Ehlen in lieu of Bell as applied to claim 17 and further in view of Fischer U.S. Patent 4,754,549. With respect to claim 18, the examiner states "Ehlen et al. and Bell et al. disclose the claimed invention above, except for the upper portion of the drive tang edges is inwardly relieved from the sprocket tooth leading and trailing edges." Fischer et al, according to the examiner, disclose a "drive chain for a saw chain such that the drive tang (13) of the tooth of the saw comprises a [sic] relief at the upper part (26A, 25) portion of the tang in order to allow the tang to be properly seated in the gullet so as to reduce or eliminate kick back." The examiner further states, "It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the tang of Ehlen to include the relieve section in view of Fischer et al. in order to allow the tang to be properly seated in the gullet so as to reduce or eliminate kickback."

Applicant respectfully traverses this point. While Fischer may disclose a drive tang having **one** edge that has an inward relief, as opposed to a relief in both edges, it does not urge or cause the "corresponding support for the drive tang [to be] provided by

the lower edge portion of the corresponding leading edge and trailing edge portions of the sprocket teeth.” Instead, the relieved portion the drive link of Fischer is designed to pivot within the gap between the sprocket teeth, and to mate with a correspondingly relieved upper portion of the sprocket tooth in order to cause the tooth to maintain a desired orientation as it traverses the guide bar nose. See e.g. Col.1, Lines 46-52. Further, Applicant agrees with the examiner that Fischer is intended to prevent kick back. Fischer is not at all concerned with improving the sprocket strength such that the guide bar will resist side wall separation. Accordingly, there is no suggestion or motivation to combine Fischer with either Bell or Ehlen to arrive at the invention claimed in claims 6 and 18-20.

Indeed, seating of the drive tang within the gullet, as the Examiner suggests Fischer teaches, would defeat Fischer’s intended function. The mating or latching at the upper portion of the teeth would increase the length of the bending moment arm on the teeth thereby increasing the stress on the teeth which would tend to split the guide bar. This runs counter to solving the problem with which application is concerned. Therefore, it would be inappropriate for a number of reasons for one skilled in the art to look towards Fischer et al. in order to solve the problem that applicant has, and none of the references suggest the desirability of combining Fischer with Ehlen et al. and/or Bell et al.

In further support of the allowance of claims 6 and 19, Fischer does not teach having the upper portion of the sprocket tooth inwardly relieved in order to cause the support drive tang to be provided at the lower portion of the leading and trailing edge of the tooth. To the contrary, Fischer teaches having the drive tang actually contact the upper portion of the tooth at 28.3A (Fig. 11), along with contact at the lower portion 28.3B. See Co. 6, lines 42-48. Because Fischer teaches the opposite of what is claimed, claims 6 and 19 are further allowable over Fischer, Bell and Ehlen. Accordingly, allowance of claims 6 and 18-20 is respectfully requested.

Finally, the examiner has not addressed claims 3 and 8 in the text of the action. However, in the disposition of the claims portion the examiner lists the claims 1-14 and 17-20 as rejected. The applicant, of course is unable to provide remarks in reply regarding claims 3 and 8. However, since claims 3 and 8 depend from respective

allowable claims 1 and 6, as discussed, these claims are believed to be allowable as presented.

Conclusion

Applicant submits all the claims in the present application, specifically claims 1-14 and 17-20 are in condition for allowance. A Notice of Allowance is respectfully requested.

If there are any questions, the Examiner is invited to contact the undersigned at (503) 796-2496. Also, the Commissioner is hereby authorized to charge shortages or credit overpayments to Deposit Account No. 500393.

Respectfully submitted,

SCHWABE, WILLIAMSON & WYATT, P.C.

A handwritten signature in black ink, appearing to read "Christopher J. Lewis", is written over a horizontal line.

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Dated: January 5, 2006

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